

**TRANSLATION**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>04-F-054PCT</b>	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/JP2004/017312</b>	International filing date ( <i>day/month/year</i> ) <b>15.11.2004</b>	Priority date ( <i>day/month/year</i> ) <b>14.11.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>B29C45/14, B29C45/73, B29K105/20</b>		
Applicant <b>OGURA CLUTCH CO., LTD.</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> ( <i>sent to the applicant and to the International Bureau</i> ) a total of <u>7</u> sheets, as follows: <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> ( <i>sent to the International Bureau only</i> ) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/017312

## Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-36 as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 3-5, 7, 11-14 received by this Authority on 14.06.2005
- nos.\* 1, 2, 8-10, 16-22 received by this Authority on 26.12.2005
- ☒ the drawings:
- sheets fig. 1-5 as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☒ the claims, nos. 6, 15
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
<b>1. Statement</b>			
Novelty (N)	Claims	1-5, 7-14, 16-22	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-5, 7-14, 16-22	NO
Industrial applicability (IA)	Claims	1-5, 7-14, 16-22	YES
	Claims		NO
<b>2. Citations and explanations (Rule 70.7)</b>			
Document 1: JP 2002-248649 A (Mitsuboshi Belting Ltd.), 03 September 2002, paragraph [0016]			
Document 2: JP 11-105076 A (Suzuka Fuji Xerox Co., Ltd.), 20 April 1999, paragraphs [0002] and [0060]			
Document 3: JP 2002-264189 A (Ricoh Co., Ltd.), 18 September 2002, claims and paragraph [0048]			
Document 4: Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 67282/1988 (Laid-open No. 169314/1989) (Meiki Co., Ltd.), 29 November 1989, claims			
Document 5: JP 2-41222 A (Tigers Polymer Corp.), 09 February 1990, page 3, upper right column, lines 1 to 5			
Document 6: JP 2001-1382 A (Mitsubishi Electric Corp.), 09 January 2001, paragraphs [0026] to [0028]			
Document 7: JP 5-245871 A (Asahi Glass Co., Ltd.), 24 September 1993, example 1			
Document 8: JP 52-49266 A (Mitsui Petrochemical Ind.), 20 April 1977, example 1			
Document 9: JP 1-310924 A (Nippon Petrochemicals Co.,			

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Ltd.), 15 December 1989, example 1

Document 10: JP 10-180797 A (Canon Inc.), 07 July 1998, paragraphs [0005] to [0009], [0075] and [0094]

Document 11: JP 7-60556 A (Nippon Seiko Kabushiki Kaisha), 07 March 1995, paragraphs [0044] and [0045]

The inventions set forth in claims 1 to 4 and 9 to 13 do not involve an inventive step in the light of the inventions disclosed in documents 1 to 4, which are cited in the international search report, and documents 7 to 11, which are newly cited. Documents 1 and 11 indicate that the molding dies disclosed therein are maintained at a temperature of 40°C or higher. Meanwhile, techniques wherein the insert material is preheated before insertion into the die in order to reduce the residual deformation of the molded article and to prevent the cracking of the resin are well known, as disclosed in documents 2 and 7 to 10, while techniques wherein the insert-molded product is extracted from the die and then gradually cooled are commonly used, as is indicated in documents 3 and 4. Such being the case, it would have been obvious to a person skilled in the art to apply the techniques disclosed in documents 2 to 4 and 7 to 10 in the invention disclosed in document 1 or 11.

In addition, techniques wherein the insert material is heated to a temperature higher than that of the die are well known in the technical field in question, as disclosed in documents 7 to 10.

Furthermore, techniques wherein the insert material is subjected to a shot-blasting treatment and a silane

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

coupling treatment in order to improve the peel-resistance characteristics thereof are considered to have been well known on the filing date of the present application, as disclosed in document 11.

The inventions set forth in claims 5 and 14 do not involve an inventive step in the light of the inventions disclosed in documents 1 to 4, document 5 cited in the international search report, and documents 7 to 11. Document 5 discloses an invention wherein the resin coating has a thickness of between 5  $\mu\text{m}$  and 30  $\mu\text{m}$ .

The inventions set forth in claims 7, 8 and 16 to 22 do not involve an inventive step in the light of the inventions disclosed in documents 1 to 4 and documents 7 to 11. It would have been obvious to a person skilled in the art to apply the characteristic improving techniques that are disclosed in documents 1 to 4 in order to prevent problems such as the cracking of the resin or the peeling of the resin.

In addition, the matter of whether the gears that have been coated with a resin intermesh with gears that have not been coated with a resin or not is merely one of design, and as such can be configured in an appropriate manner by a person skilled in the art.